

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 1, 21, 73, 74 and 101 of)	WT Docket No. 03-66
the Commission's Rules to Facilitate the)	RM - 10586
Provision of Fixed and Mobile Broadband)	
Access, Educational and Other Advanced)	
Services in the 2150-2162 and 2500-2690)	
MHz Bands)	
)	
Part 1 of the Commission's Rules – Further)	WT Docket No. 03-67
Competitive Bidding Procedures)	
)	
Amendment of Parts 21 and 74 to Enable)	MM Docket No. 97-217
Multipoint Distribution Service and the)	
Instructional Television Fixed Service)	
Amendment of Parts 21 and 74 to Engage in)	
Fixed Two-Way Transmissions)	
)	
Amendment of Parts 21 and 74)	WT Docket No. 02-68
of the Commission's Rules With Regard to)	RM - 9718
Licensing in the Multipoint)	
Distribution Service and in the)	
Instructional Television Fixed Service for the)	
Gulf of Mexico)	

REPLY COMMENTS OF SPECTRUM MARKET, LLC

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October 23, 2003

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	SPECTRUM MARKET SUPPORTS RETENTION OF EDUCATIONAL REQUIREMENTS IN THIS BAND.....	3
III.	THE EDUCATIONAL COMMUNITY WILL BENEFIT FROM THE REALLOCATION OF THE BAND FOR ADVANCED WIRELESS USES	4
IV.	CONVERSION OF THE ENTIRE 2.5 GHZ BAND TO LOW-POWER CELLULARIZED OPERATIONS BY A DATE CERTAIN WILL PROMOTE THE BEST AND HIGHEST USE OF THE SPECTRUM.....	7
A.	COMBINING HIGH- POWER AND LOW- POWER USES IN THE BAND FRAGMENTS THE SPECTRUM AND LEADS TO AN UNTENABLE TRANSITION PLAN	7
B.	THE GREATEST SPECTRUM VALUE IS ACHIEVED BY CONVERSION OF THE ENTIRE BAND TO LOW-POWER SERVICES BY A DATE CERTAIN	9
C.	RETAINING A HIGH-POWER MID-BAND SEGMENT FAILS TO ACHIEVE GLOBAL HARMONY	11
V.	PRIVATE “MARKET-MAKERS” SUCH AS SPECTRUM MARKET WILL BE ESSENTIAL TO FACILITATE RECONFIGURATION OF THE BAND	13
VI.	AUTHORIZATION OF UNDERLAY USE IN THE 2.5 MHZ BAND WOULD POSE AN UNREASONABLE RISK AND DEVALUE THIS CRITICAL SPECTRUM RESOURCE.....	16
VII.	CONCLUSION.....	17

Summary

Spectrum Market, LLC ("Spectrum Market") brings together licensees and users of spectrum through market-based mechanisms that reduce transaction costs, increase transparency and promote fair dealings. In addition to negotiated sales and expert advisory services, Spectrum Market provides, through its proprietary and innovative electronic technology platform (www.SpectrumMarket.com), the following: a) an on-line listing of spectrum available through Spectrum Market, with the interactive ability to fully research and analyze that spectrum, and b) an electronic auction site where licensees sell direct and subsidiary rights in licenses (subject to any necessary FCC approvals) through competitive bidding. Spectrum Market demonstrated in its initial Comments that use and value of the 2.5 GHz band is currently highly suppressed. Spectrum Market will rely on a variety of market-driven mechanisms to play an active role in expediting reconfiguration of the 2.5 GHz band so that the spectrum will finally be put to its best and highest use.

In its Reply Comments, Spectrum Market advocates the following:

- Spectrum Market supports retention of the current educational requirements for ITFS licensees, including the requirement to retain five percent of digital capacity for educational uses, even if the Commission permits those licenses to be sold to commercial entities. The Commission's stated goal of promoting growth of broadband educational services at 2.5 GHz can best be achieved by retaining the current educational requirements and transitioning the entire band to low-power cellularized uses.
- The record demonstrates nearly unanimous support by the educational community for expansion of ITFS operations to broadband networks that will provide interactive, digital educational materials and high-speed wireless data services, including broadband Internet access. As the U.S. Department of Education and educational experts confirm, use of interactive technologies are an essential component of enhancing the quality and effectiveness of the learning experience. This proceeding gives educators a unique opportunity to satisfy their long-term need for conversion of instructional video networks to higher-valued educational

uses. To allay concerns of some educators that there be sufficient time for transition to broadband technologies, Spectrum Market proposes that low-power cellularized operations not be mandated until January 2008.

- Retaining a large high-power video block in the middle of the 2.5 MHz band will undermine the Commission's goal of an efficient and coherent restructuring of the band. In addition, indefinite retention of dedicated high-power use will conflict with global harmonization in this band, potentially foreclosing the possibility of an international allocation for advanced wireless services.
- Combining high-power and low-power uses in the band fragments the spectrum, leads to an untenable transition plan and is likely to cause complex interference scenarios between fundamentally incompatible users. Mandating low-power cellularized operations throughout the band, combined with technological neutrality, will maximize productive use of the de-interleaved spectrum.
- Requiring transition to low-power cellularized operations by a date certain will insure that the transition actually occurs. Spectrum Market proposes that transition to low-power cellularized operations be mandated by January 1, 2008, to coincide with the European Union's timeframe for introduction of these services into the same band. Spectrum Market proposes that incumbent licensees can voluntarily transition prior to that deadline, and expects a robust secondary market, with Spectrum Market as an active participant, will lead to the early implementation of broadband networks in this spectrum.
- Efficient operation of a secondary market in the 2.5 GHz band will be essential to productive use of the spectrum. Spectrum Market believes that the private sector must take the lead in facilitating opportunities for transparent and expedited negotiation of a full range of secondary market transactions that will promote the best and highest use of the spectrum.
- Spectrum Market opposes underlay use in the 2.5 MHz band. The unpredictable and possibly substantial risks posed by underlay licensing will discourage investment in licensed operations, and devalue this important spectrum resource.

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REPLY COMMENTS OF SPECTRUM MARKET, LLC

Spectrum Market, LLC (“Spectrum Market”), pursuant to Section 1.415(c) of the Commission’s Rules,¹ submits herewith this Reply to comments filed in the above-referenced proceeding.

I. INTRODUCTION

Founded in 2000 by individuals with extensive experience in spectrum transactions and spectrum management, Spectrum Market serves as a spectrum broker, exchange and advisor.

¹ 47 C.F.R. § 1.415(c).

Spectrum Market brings together licensees and users of spectrum through market-based mechanisms that reduce transaction costs, increase transparency and promote fair dealings. Spectrum Market (www.SpectrumMarket.com) offers brokerage services, including negotiated sales and a proprietary and innovative electronic technology platform that serves three purposes: 1) provides an on-line listing of spectrum available through Spectrum Market, with the interactive ability to fully research and analyze that spectrum, 2) serves as an electronic auction site where licensees sell licenses (subject to any necessary FCC approvals) and leases of spectrum in a competitive bidding process and 3) offers users Spectrum Market's expert knowledge and select research materials concerning wireless spectrum. Spectrum Market is interested in the current proceeding because, as demonstrated in its initial Comments, the use and value of the 2.5 GHz band is currently highly suppressed, and Spectrum Market will actively participate in the market mechanisms described above to insure that this band, when reorganized, will be put to its best and highest use.

In its Comments, Spectrum Market supported mandatory transition of the entire 2.5 GHz band to low-power, cellularized operations to promote spectrum efficiency, flexibility and broadband use that harmonizes with international allocations. Spectrum Market further demonstrated that the Coalition's² proponent-based transition scheme was counterproductive, and instead identified the need for complete transition by a date certain to a band plan consisting of de-interleaved channels licensed in contiguous blocks. Finally, Spectrum Market supported a

² The "Coalition" consists of the Wireless Communications Association International (WCA), the National ITFS Association (NIA) and the Catholic Television Network (CTN), which jointly filed a request for rulemaking which led to the subject proceeding, *In the Matter of Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 Bands*, Notice of Proposed Rulemaking and Memorandum Opinion and Order, 18 FCC Rcd 6722 (2003) ("Notice").

variety of secondary market mechanisms that complement Commission-conducted white-space auctions in expediting voluntary reconfiguration of the band.

II. SPECTRUM MARKET SUPPORTS RETENTION OF EDUCATIONAL REQUIREMENTS IN THIS BAND

Based on the comments in this proceeding, there are ITFS licensees who remain committed to utilizing their spectrum to provide needed and valuable educational services. Spectrum Market fully supports such educational objectives. Spectrum Market's Comments demonstrated that retaining high-powered video uses along with low-power cellular uses within the 2.5 GHz band continues to suppress the value of this band and ultimately impairs the licensees' interests in their spectrum. However, although Spectrum Market cannot support the retention of high-power video, it believes that ITFS licensees provide valuable educational services that they should continue, and in fact greatly enhance, through low-power, digital services.

Spectrum Market supports the retention of the current educational requirements for ITFS licenses, including the requirement to retain five percent of digital capacity for educational uses.³ Since ITFS licenses were allocated for educational purposes, the educational requirement should attach to the license itself, not the ITFS licensee. Thus, should the Commission decide to permit ITFS licensees to sell their licenses to commercial entities,⁴ the buyer should be required to

³ A few commenters, such as the Media Access Project, urge the Commission to increase the educational content requirement of ITFS licensees. ITFS licensees are free to use more than five percent of capacity for educational content, and several licensees state that they routinely do so. It is difficult to evaluate how the public interest would be served by replacing a flexible standard that allows each ITFS licensee to make their own decisions about how they choose to provide educational content with a rigid, across-the-board requirement.

⁴ Spectrum Market takes no position on the issue of eligibility to hold ITFS licenses.

allocate five percent of the digital capacity on the licensed spectrum for educational uses.⁵ The Commission has concluded in this proceeding that

“Broadband technologies hold some promise not only for residential and business communities, but also for American students. The American classrooms are increasingly wired, but access to broadband technologies is still far from ubiquitous. With access to broadband technologies our students and teachers will have more powerful tools with which to learn. ITFS can and should play a role in making broadband more common in our students’ educational experience.”⁶

To achieve the Commission’s goal of maximizing the use of ITFS frequencies for broadband, educational services, it is necessary that the Commission designate the band for digital, cellularized uses, and retain the educational requirement.

III. THE EDUCATIONAL COMMUNITY WILL BENEFIT FROM THE REALLOCATION OF THE BAND FOR ADVANCED WIRELESS USES

There is a remarkable degree of unanimity among ITFS licensees and national educational organizations in their desire to expand ITFS operations to broadband networks that will provide interactive, digital educational materials and high-speed, two-way wireless data services, including broadband Internet access.⁷ Although some of these licensees prefer to retain

⁵ The five percent requirement will not diminish the value of the band when reorganized. In a study performed by BIA Financial Network, Inc. (“BIA”), submitted with Spectrum Market’s Comments, BIA did in fact assume that only ninety-five percent of ITFS spectrum would be commercially available. BIA determined that the ITFS/MDS spectrum would be valued at almost \$21 billion under Spectrum Market’s proposal, compared to a valuation of \$901.9 million under the current regime. See Spectrum Market, LLC Comments, Appendix II, *Analysis Report—Valuation of the MMDS/ITFS Spectrum in the US as of August 1, 2003*, BIA Financial Network at 27.

⁶ Notice at ¶ 33.

⁷ See, e.g., Joint Comments of the Catholic Television Network and the National ITFS Association at 5; Joint Comments of ITFS Parties, pp 3-4; Comments of Archdiocese of Los Angeles at 2; Comments of the School Board of Broward County, pp 5-7; Comments of the School Board of Miami-Dade County, pp 5-7 and Comments of the Education Community, pp 3 & 5.

a portion of the band for high-powered video services, they recognize the educational value of advanced wireless services and that the future of education will require the use of such services.⁸

The South Carolina Educational Television Network (“SCETN”) has provided the Commission with a particularly thoughtful and comprehensive summary of why it is essential for educators to transition ITFS use to broadband, interactive educational technologies. SCETN has commenced a migration of its statewide analog ITFS delivery network to a digital system. That decision was premised on a number of factors that all educators face: 1) distance learning through the Internet is increasingly important; 2) video content must be more interactive—delivery mechanisms such as one-way instructional television create a “human gatekeeper” to the educational experience that is inconsistent with the needs of today’s student-centered paradigm, and does not cultivate technology competencies; 3) present analog instructional television video content is not correlated to educational standards or objectives, is not searchable and is certainly not available on demand; 4) passage of the “No Child Left Behind Act” requires legislators and administrators to demand accountability and compliance with learning standards; 5) as schools increasingly rely on the Internet for administrative and instructional functions, there is also an increasing need for dedicated bandwidth; 6) more and more rural schools suffer from the digital divide; 7) digital storage needs are increasing as a direct function of exponentially increasing access by the public to new information; and 8) state and local budget cuts are resulting in a reduction of instructional services and creating new mandates for an educational technology infrastructure that will generate self-supporting revenue.⁹

⁸ *Accord, A Retrospective on Twenty Years of Education Technology Policy*, U.S. Department of Education, Office of Educational Technology, October 2003; *Summary of the NCTET Forum: Development of the New National Ed Tech Plan*, National Coalition for Technology in Education and Training, July 10, 2003.

⁹ Comments of South Carolina Educational Television Network at 4.

Despite the compelling reasons to do so, as outlined by SCETN and endorsed by the U.S. Department of Education, Spectrum Market notes the reluctance of some educators to transition from their current analog instructional television operations to interactive broadband offerings.¹⁰ These comments seem concerned with the time it will take to transition to new technologies and allow those technologies to sufficiently develop.¹¹ However, Spectrum Market proposes that the transition to low-power services not be mandated (although voluntary transitions would be permitted) until January 2008, for the specific purpose of allowing ITFS licensees sufficient time to transition their educational content to new technology. Moreover, it seems likely that active ITFS users will need to transition to new technologies to continue expansion of their systems¹² and to remain current with educational theories as to the best methods to teach students.¹³

¹⁰ See generally Joint Comments of Stanford University and Northeastern University and Comments of Illinois Institute of Technology.

¹¹ See, e.g., Comments of Illinois Institute of Technology at 15 (“...any shift to a new delivery system such as the Internet requires substantial lead time to enable both students and institutions to make the adjustments necessary to ensure the success of programming delivery.”).

¹² Stanford University and Northeastern University state that a single high-powered video channel, which they would be allocated under the Coalition proposal, is in fact insufficient bandwidth for their needs, leading one to the conclusion that active ITFS licensees may need to transition to web-based or other methods of capitalizing on their current bandwidth to fulfill their educational agendas. In addition, ITFS licensees recognize the value of being able to “piggyback” on the commercial wireless broadband networks that will be developed using the reorganized spectrum. See Joint Comments of the Catholic Television Network and the National ITFS Association at 11, Response of Colorado State University (filed August 29, 2003), and Joint Comments of ITFS Parties at 4.

¹³ A recent comprehensive review of distance learning concluded that instructional approaches in general are moving from a “transmission model,” such as ITFS transmissions, to become more learner-centered, non-linear and self-directed. See “Thirty-Two Trends Affecting Distance Education: An Informed Foundation for Strategic Planning,” *Online Journal of Distance Learning Administration*, Fall 2003, Vol. 6, Issue 3. This shift toward a constructivist model of learning uses computer-mediated communication and emphasizes students' responsibility for their own learning. The Florida Center for Instructional Technology concluded that ITFS-delivered instructional television is not interactive, must be scheduled, and may fail to engage students in an active learning process. See *A Teacher's Guide to Distance Learning*, Chapter 9, “Video Technologies,” <http://fcit.usf.edu/distance>.

Thus, it seems that the future of education will in fact be web-based and will employ other broadband technologies. Spectrum Market reposes confidence in the ability of ITFS stalwarts to make use of the transition period to contemplate the future and, after study and deliberation, to seize the greater opportunity which is presented by broadband technologies and the massive increase in support for education which will flow from the conversion of the 2.5 GHz band to low-power cellularized use.

IV. CONVERSION OF THE ENTIRE 2.5 GHZ BAND TO LOW-POWER CELLULARIZED OPERATIONS BY A DATE CERTAIN WILL PROMOTE THE BEST AND HIGHEST USE OF THE SPECTRUM

The Coalition's proposal to maintain a large high-power video block in the middle of the band unfortunately leads to harmful consequences, including an overly complex de-interleaving process, an indefinite and uncertain timeframe for band reconfiguration, the drastic devaluation of the spectrum, and a failure to achieve harmony with global allocations.

A. Combining High-Power and Low-Power Uses in the Band Fragments the Spectrum and Leads to an Untenable Transition Plan

In order to preserve declining video use, which, as demonstrated above, is likely to be converted to broadband uses in the future, the Coalition plan takes away 24 MHz of potentially flexible spectrum from a four-channel licensee and converts it to 16.5 MHz of low-power spectrum, 6 MHz of one-way high-power spectrum, and 1.5 MHz of virtually unusable guardband spectrum. In addition, as a dividend of maintaining a large video block, the Coalition proposal adopts a market-by-market transition that is overly complicated, involves cumbersome negotiations, and relies on the appearance of a Proponent willing and able to undertake the monumental task of transitioning many markets with multiple licensees. As detailed in the technical study and analysis accompanying Spectrum Market's Comments, the end result is that the transition is unlikely to occur and, should it ever occur, it will concentrate the spectrum in the

hands of a few large Proponents and who will control timing to effectively leverage the transition in favor of the Proponent. Spectrum Market, on the other hand, proposes a simple de-interleaving of the channels and a mandated conversion to low-power operations by a date certain.¹⁴

By mixing low and high-power uses, the Coalition's band plan also creates serious interference issues and wasted spectrum in the form of guardbands required to separate those uses. The Commission is struggling with similar issues in the 800 MHz band, where considerable public and private resources have already been directed at protecting high-power analog public safety communications from interference caused by adjacent low-power cellularized operations, but preserving for public safety the ability to transition to state-of-the art technology that will better serve the long-term telecommunications needs of our nation's first responders.¹⁵ Adoption of the Coalition's proposal to retain a permanent, high-powered reservation in the middle of the 2.5 GHz band has great potential to arrive at the same impasse. It is uncertain whether guardbands or other technical measures will allow these differing operational modes to co-exist successfully.

Under Spectrum Market's plan, a four-channel licensee will in fact have 24 MHz of contiguous, flexible use spectrum. Licensees would simply de-interleave their licensed channels so that they retain two of their original frequency assignments and need to merely swap any existing transmitters (taking into account the likelihood of forming arrangement to also swap with the adjacent channel licensee) for the other two channels if they desire to remain

¹⁴ See generally Comments of Spectrum Market, LLC, Appendix I, Engineering Statement of Carl T. Jones, P.E.

¹⁵ *Improving Public Safety Communications In The 800 MHz Band, Consolidating the 800 MHz Industrial/Land Transportation and Business Pool Channels*, Notice of Proposed Rulemaking, WT Docket No. 02-55, 66 Fed. Reg. 16352 (April 5, 2002).

operational. That band plan transition will occur quickly and easily. Just as important, it creates contiguous spectrum blocks that will lead to the entry of multiple spectrum users with whom the licensees can partner through Spectrum Market's services.¹⁶

A crucial element of Spectrum Market's proposal is that it permits voluntary transition to low-power cellularized operations prior to the close of the transition period. Spectrum Market's band plan allows licensees to enter into agreements with other licensees, including agreements to de-interleave channels, and then immediately proceed to formation of broadband networks prior to the mandated transition date. In fact, Spectrum Market anticipates that many licensees, and potential commercial partners, will desire to deploy low-power, cellularized networks in the band in the not-too-distant future. Spectrum Market long ago designed its services, including its electronic spectrum trading auction site, to manage the sale and lease of 2.5 GHz spectrum rights, and expects there to be a robust secondary market well before the transition date.

B. The Greatest Spectrum Value is Achieved by Conversion of the Entire Band to Low-Power Services by a Date Certain

Spectrum Market further maintains that the public interest in expedited, productive use of the 2.5 GHz band would be harmed by an indefinite set-aside of a substantial amount of spectrum for high-powered one-way uses, an overly complex de-interleaving process and an indefinite timeframe for completion of band reconfiguration. In support of these conclusions, Spectrum Market's initial comments included a study performed by BIA Financial Network, Inc. ("BIA Study"). The BIA Study provided an objective, market-based valuation of the 2.5 GHz band under three distinct scenarios: the band remains as it is, the Coalition's proposal and

¹⁶ Spectrum Market expects that other market-makers will emerge as well, particularly in light of the Commission's recent pronouncements on the need for efficient operation of secondary markets for spectrum.

Spectrum Market’s proposal for simplified de-interleaving, and mandatory transition to low-power operations by a date certain.

While acknowledging that educational uses of ITFS spectrum remain of incalculable value to both society and our economy, the BIA Study made clear that its analysis focused on commercial uses of the 2.5 GHz band, taking into account that the majority of ITFS licensees lease capacity to commercial entities to assist in sustaining their educational missions.¹⁷ Thus, the BIA Study should be viewed as a comparison of how different outcomes in this proceeding are likely to influence overall value of the 2.5 GHz band to the relevant market sectors, the public and the economy.

The BIA Study concluded that if the basic elements of Spectrum Market’s reconfiguration proposal are followed, valuation of the 2.5 GHz band could be as much as \$20.937 billion, as opposed to an outcome following the Coalition plan’s basic elements, where valuation could range from \$901.9 million to \$14.640 billion, depending on the smoothness of transition.¹⁸ The two primary factors influencing the substantially higher valuation under the Spectrum Market plan were 1) “...more spectrum is made available for commercial use in Spectrum Market’s proposal...[because] the Coalition proposal [of] a middle band for high power services is proposed including a 6 MHz guard band, which leaves 132 MHz available for commercial deployment—about 28% less,”¹⁹ and 2) [t]he Coalition does not propose a schedule or a date by which license holders must have converted to the new band plan. Based on information provided by Spectrum Market’s engineers, this can cause a ripple effect of a high number having to convert to avoid interference problems. We have adjusted the Coalition value

¹⁷ BIA Study, pp 16-22.

¹⁸ *Id.* at 41.

¹⁹ *Id.*

conclusion to include this transition process, which we believe is less smooth and can cause the conversion process to drag out beyond 2008.”²⁰

C. Retaining A High-Power Mid-Band Segment Fails to Achieve Global Harmony

The Coalition's proposed reservation of a high-power mid-band segment gives inadequate consideration to proposed global uses of the 2.5 GHz band, thereby significantly reducing objective, market-based measures of the band's cumulative value to the public. A number of commenters, particularly equipment manufacturers, who are best-positioned to appreciate both the great potential and operational challenges of the 2.5 GHz band, substantially agree with Spectrum Market's position on this issue.²¹

Spectrum Market proposes that January 1, 2008 be established as the deadline for transition to the new 2.5 GHz band plan.²² That date coincides with the European Union's timeframe for introduction of advanced wireless services into the same band. Consistent with

²⁰ *Id.* at 42.

²¹ Comments of ArrayCom, Inc., pp 4-5 & 8-9; Comments of Ericsson Inc., pp 4-5 & 12-13; Comments of Motorola, Inc., pp 3, 6-9; Comments of Telecommunications Industry Association at 2.

²² Several commenters indicate that they are now providing digital broadband services to rural and isolated parts of the country under the Commission's current Rules. They argue that expediting reconfiguration of the band to only permit cellularized low-power operations would cause economic hardship, disrupt an established broadband network and deprive subscribers of a much-needed source of competitive advanced services. *See, e.g.* Comments of WATCH TV Company, Comments of the National Telephone Cooperative Association, April 24, 2003 Letter of Wireless World and Comments of Virginia Communications Inc. Spectrum Market appreciates that in certain rural and isolated markets with low population densities, the demand for 2.5 GHz services may not increase to such an extent that availability of capacity to accommodate new uses will be limited by January 1, 2008. Some of these rural and isolated markets may also be far enough removed from locations of low-power, cellularized networks to make adjacent channel or co-channel interference highly improbable. Under such circumstances, an extended timeframe for band transition may avoid abrupt disruptions in availability of valuable broadband alternatives to underserved areas, and should not cause harmful interference to low-power cellularized operations in more heavily populated areas. Spectrum Market recommends that the Commission consider a process for these types of incumbent rural networks to demonstrate on a case-by-case basis that a more extended timeframe for transition to the reconfigured band would serve the public interest.

the comments of ArrayCom, Inc., Ericsson Inc., Motorola, Inc., the Telecommunications Industry Association, IP Wireless and others,²³ the 2.5 GHz band presents a unique opportunity for an international advanced wireless services allocation. Establishing a global allocation for these purposes would be of immeasurable public value. Harmonization with international decisions regarding use of 2.5 GHz should therefore be a key outcome of this proceeding, and use of the January 1, 2008 date as a transition deadline will strongly reinforce commitment to a global advanced wireless allocation.

As the January 1, 2008 deadline approaches, international coordination of technical and operational regulations for the 2.5 GHz band will continue to expand. In this respect, another merit of the Spectrum Market band plan is that it can accommodate the full range of technologies that market demand will dictate through technological neutrality and conservation of the maximum amount of useable spectrum in the band.²⁴ This is accomplished by avoiding mandated guardbands and declining to indefinitely reserve a substantial amount of spectrum for high-powered use.

Spectrum Market submits that it would undermine the goal of achieving maximum flexibility to adopt any mandatory pairing arrangements. There has been no decision to implement a pairing scheme internationally, and many different types of arrangements are under consideration.²⁵ Working Party 8F has stated

²³ *Id.* See also Comments of the Cellular Telecommunications and Internet Association, pp 3-4 and Comments of IP Wireless, pp 8-9.

²⁴ These objectives are established elements of Commission allocation decisions for a decade. See, e.g. *Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)*, Report and Order, 17 FCC Rcd 1022 (2001).

²⁵ See Working Party 8F, draft Revision of Recommendation ITU-R M-1036 ("*Rec. 1-36-1*") at ¶ 6.1.3.

"It is recommended that the frequency arrangements should, to maintain flexibility in deployment, be available for use in either frequency division duplex (FDD) mode, time division duplex (TDD) mode, or both, and should not, ideally, be segmented between FDD and TDD modes in paired spectrum except where necessary for technical and regulatory reasons."²⁶

It would be premature and imprudent to adopt a pairing scheme that could result in serious discordance with global allocations. Moreover, the comments of equipment manufacturers in this proceeding indicate that there are widely varying opinions on the use and need for any pairing arrangements.²⁷ In light of these factors, the Commission should afford maximum technical flexibility so that users can aggregate the spectrum in the specific blocks that they desire through secondary market mechanisms, such as those offered by Spectrum Market.

V. PRIVATE "MARKET-MAKERS" SUCH AS SPECTRUM MARKET WILL BE ESSENTIAL TO FACILITATE RECONFIGURATION OF THE BAND

As described above, Spectrum Market was developed to offer spectrum sales and leasing services, using both negotiated sales and an electronic auction exchange, and advisory services -- all of which draw upon the wireless and spectrum expertise of the founders and employees of the company. The FCC's recent Secondary Markets item²⁸ validates Spectrum Market's position that efficient operation of secondary markets will be central to expediting productive use of wireless spectrum. In Secondary Market's Further Notice of Proposed Rulemaking, the Commission seeks comment on, among other things, whether rules governing 2.5 GHz leasing arrangements should be harmonized with those adopted for CMRS. In addition, the Commission expresses the view that:

²⁶ *Id.* at ¶ 6.3.

²⁷ Compare Comments of Motorola, Inc. at 12 (FDD use is likely in the band but would require large guardbands), with Comments of ArrayComm, Inc. at 2 (TDD technology is more spectrally efficient).

²⁸ *In the Matter of Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 00-230, Adopted May 15, 2003. ("Secondary Markets").

“In order to facilitate marketplace transactions, there may also be a need for ‘market-maker’ intermediaries to gather more detailed information regarding available spectrum and to bring potential holders and users of spectrum together”

and concludes that:

“As a general matter, we continue to believe that the private sector is better suited both to determine what types of information parties might demand, and to develop and maintain information on the licensed spectrum that might be available for use by third parties.”²⁹

Spectrum Market will provide a more detailed treatment of this and other issues in the form of comments responding to the Secondary Markets Further Notice of Proposed Rulemaking.³⁰ Spectrum Market will, however, use this opportunity to share its general positions on the role of secondary market in reconfiguration of the 2.5 GHz band.

The 2.5 GHz band is unique in that spectrum leases have long played a significant role in determining spectrum use. As Spectrum Market has already noted, existing ITFS leases are likely to have a significant impact on reconfiguring the band. Moreover, it is likely that spectrum leases will continue to play a significant role in secondary market spectrum consolidations.

Spectrum Market operates as the type of private sector “market-maker” described in Secondary Markets. Spectrum Market believes that the private sector should take the lead in facilitating opportunities for transparent and expedited negotiation of the full range of secondary market transactions. Spectrum Market joins with Sprint Corporation in questioning the legality and viability of a Commission decision to combine auctioning of white space licenses with

²⁹ Secondary Markets at ¶ 218 and ¶ 236.

³⁰ In the interest of reaching expedited closure in this proceeding, the Commission may wish to consider breaking off those portions of the Secondary Markets Further Notice record that directly relate to the 2.5 GHz band, and incorporating them into the record of this proceeding for comprehensive resolution.

“private auctions” of spectrum voluntarily included by MDS and ITFS incumbents.³¹ In addition, as this spectrum is heavily traded through lease arrangements, the FCC will be unable to auction lease agreements, although Spectrum Market intends to do so.

Section 309(j) of the Communications Act limits the Commission’s auction authority to collecting and transmitting auction proceeds to the exclusive benefit of the United States Treasury. The Commission is not authorized to conduct auctions that will compensate private parties for their decision to “turn in” their licenses, and that much has been acknowledged in Commission decisions relating to voluntary decisions by broadcasters to expedite their DTV transition.³²

Spectrum Market also agrees with Sprint Corporation that Commission-conducted “two-sided auctions” would impose substantial transactional costs.³³ Licensees will engage in secondary market transactions if they are confident of the opportunity to maximize value received according to terms of their own choosing. A Commission-conducted two-sided auction, with a pre-established formula for payment of licensees volunteering to surrender their licenses, would preclude that result.

³¹ Comments of Sprint Corporation, pp 20-22. Spectrum Market advocated use of “two-way auctions” in its initial comments. Spectrum Market clarifies that it supports auctions of existing licenses or subsidiary rights therein conducted by private sector “market-makers” that provide potential buyers and sellers with a common electronic platform for evaluating all facts relevant to transactional decision-making and then using standardized instruments to expedite formation of agreements. Of course, consummation of such agreements would be subject to prior Commission approval where the Commission Rules impose that requirement. *See generally In the Matter of Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 00-230, Adopted May 15, 2003. (“Secondary Markets”).

³² *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, Third Report and Order*, 16 FCC Rcd 2703 (2001).

³³ Comments of Sprint Corporation, pp 20-22.

Spectrum Market's private secondary market auctions will complement the Commission's 2.5 GHz white space auction so that the Commission can achieve the potential benefits of "two-sided auctions." For example, Spectrum Market will provide bidders with detailed on-line information about its spectrum "inventory" so that potential bidders for white space licenses would have advance information about additional opportunities for aggregation of spectrum rights through secondary markets. This type of coordinated FCC/private sector auction could accomplish significant band reconfiguration at a relatively early stage in the transition process.

VI. AUTHORIZATION OF UNDERLAY USE IN THE 2.5 MHZ BAND WOULD POSE AN UNREASONABLE RISK AND DEVALUE THIS CRITICAL SPECTRUM RESOURCE

There is substantial and unconditional opposition to the proposal that "underlay" licensing be permitted in the reconfigured 2.5 GHz band.³⁴ Spectrum Market agrees and opposes any departure from exclusive rights to spectrum use in the 2.5 GHz band. Unlicensed underlays are premised on technical assumptions that are largely untested, and can only add unnecessary complexity to existing issues of interference protection among licensed users. Risks to licensed operations posed by underlays will be completely unpredictable and possibly substantial. Any underlay scheme can only devalue the band for purposes of secondary market transactions and grant of new white space licenses.

³⁴ Comments of Lucent Technologies at 4; Comments of BellSouth and BellSouth Wireless Cable, Inc., pp 26-28; Comments of Ericsson, Inc., pp 9-13; Comments of Motorola, Inc., pp 15-16; Comments of the Telecommunications Industry Association, pp 5-6; Comments of the Cellular Telecommunications and Industry Association, pp 5-6; and Comments of Sprint Corporation, pp 7-15.

VII. CONCLUSION

For the reasons discussed above, Spectrum Market respectfully requests that the Commission expedite adoption of rules to promote low-power cellularized use of a reconfigured 2.5 GHz band by a date certain. In addition, Spectrum Market requests that the Commission rely on secondary market transactions as an important tool to facilitate efficient reconfiguration of the 2.5 GHz band into broadband networks.

Respectfully submitted,

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October 23, 2003

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